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| 10/051,881 | 01/18/2002 | Albert E. Johnson | 4500-7 (04500.0012.6) | 7900 |
| 26158 | 7590 | 05/20/2004 | EXAMINER | |
| WOMBLE CARLYLE SANDRIDGE & RICE, PLLC | | | BOYD, JENNIFER A | |
| P.O. BOX 7037 | | | ART UNIT | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

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DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed February 27, 2004, have been entered and have been carefully considered. Claim 1 is amended, claims 14 – 26 are cancelled and claims 1 – 13 are pending. In view of the Applicant's Amendment requiring that the adhesive waterproofing layer *bonds* rather than connects the outer layer and the inner layer, the Examiner withdraws all previously set forth rejections as detailed in paragraphs 2 – 5 of the previous Office Action dated October 3, 2003. However, after an updated search, additional prior art has been found which renders the invention as currently claimed unpatentable.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 – 4 and 6 – 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Deitz (US 4,295,235).

Deitz is directed to a cushion adapted for outdoor use particularly in outdoor furniture (Abstract).

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As to claim 1, Deitz teaches a pair of opposed woven fabric side layers and an interlayer formed of water impervious material disposed between the side layers (Abstract). A filler material 20 is located entirely in one of the chambers (Abstract); the filler material can comprise polyester fiber batting (column 5, lines 30 – 35). Please refer to Figure 7. Deitz teaches that the layers 12 and 14 are the woven fabric layers and layer 34 is the water impervious material. In the area identified by heat seal band 38, the woven fabric layer 12, the water impervious material 34, the woven fabric layer 14 and the filler material 20 are joined by heat sealing (Figure 7 and column 6, lines 5 – 15). Deitz teaches that the woven fabric layers 12 and 14 are composed of filaments comprising nylon or polyester thread encapsulated with a vinyl coating (column 5, lines 35 – 45). Deitz notes that such a material is available under the trade name TEXTILENE (column 5, lines 35 – 45). The Examiner equates the woven fabric layer 12 to Applicant's "outer woven fabric layer", the filler material to Applicant's "inner fabric layer" and the water impervious material to Applicant's "adhesive waterproofing layer".

As to claims 2 – 4 and 6 – 7, Deitz teaches that the woven fabric layers 12 and 14 are composed of filaments comprising nylon or polyester thread encapsulated with a vinyl coating (column 5, lines 35 – 45).

Claim Rejections - 35 USC § 103

5. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deitz (US 4,295,235).

Deitz discloses the claimed invention except for that the outer woven fabric has core yarn denier of 70 – 1200 as required by claim 5 and the outer woven fabric has a core yarn denier of

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500 – 3500 as required by claim 8. It should be noted that the core yarn denier is a result effective variable. For example, as the core yarn denier increases, the yarn becomes stiffer and stronger. As the core yarn denier decreases, the yarn becomes softer and has a lower strength. It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the core yarn denier to 70 – 1200 as required by claim 5 or 500 – 3500 as required by claim 8 since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the core yarn denier to create a strong and flexible fabric.

6. Claims 9 – 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deitz (US 4,295,235) in view of Druckman et al. (US 4,996,100).

Deitz teaches the claimed invention above but fails to disclose that the woven fabric layer 12, or Applicant's "outer woven layer", can also include effect yarns selected from the group of acrylics, modacrylics, polypropylene, polyethylene and polyester as required by claim 9. Deitz fails to teach that the coated yarn content is at least 50% as required by claim 10. Deitz fails to teach that the coated yarn is introduced in both the warp and fill in a pattern alternating with effect yarns as required by claim 13.

Druckman is directed to improved fabrics suitable for use outside exposed to environmental elements (column 1, lines 1 – 8). Druckman teaches the alternating of vinyl and soft fabrics yarns in the warp direction and filling direction of a woven fabric (Abstract).

Druckman notes that the resulting fabric has the durability characteristics of the vinyl while

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possessing soft characteristics provided by the soft fabric yarns (Abstract). Druckman teaches that suitable soft fibers may be modacrylics, acrylics, polypropylene, polyethylene and polyesters (column 2, lines 35 – 37). By examining Figure 2, it is shown that the majority of the yarns in the woven fabric are vinyl yarns rather than the soft yarns.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the effect yarns of Druckman in an alternating fashion as suggested by Druckman in the mesh fabric of Deitz motivated the desire to create a fabric with high durability provided by the vinyl yarns and soft characteristics provided by the effect yarns in addition to creating an aesthetically pleasing fabric.

7. Claims 9 and 11 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deitz (US 4,295,235) in view of Swers et al. (US 6,557,590).

As to claims 9 and 11, Deitz teaches the claimed invention above but fails to disclose that the *mesh material*, or Applicant's "woven layer", can also include effect yarns selected from the group of acrylics, modacrylics, polypropylene, polyethylene and polyester as required by claim 9. Deitz fails to teach that the coated yarn is introduced in the fill alone as required by claim 12.

Swers directed to fabrics that are used for outdoor applications such as outdoor cushion upholstery, tents, awnings and marine applications (column 1, lines 24 – 33). Swers teaches that the fabric comprises a woven structure formed of warp effect yarns and self-coating yarns formed of high melt and low melt yarn constituents in at least part or all of the fill (column 1,

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lines 10 – 22). Therefore, in one embodiment, Swers teaches that the woven structure can comprise warp effect yarns in the warp direction and only self-coating yarns in the fill direction.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the effect yarns in the pattern as suggested by Swers in the mesh fabric of Deitz motivated the desire to create a fabric with abrasion resistance, load/elongation recovery, firm hand and weave stability while having an aesthetically pleasing looking.

As to claim 11, Deitz in view of Swers discloses the claimed invention except for that the coated yarn is introduced in the warp alone. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a fabric with coated yarn introduced in just the warp alone, since it has been held to be within the general skill of a worker in the art to select a pattern of yarns on the basis of its suitability for the intended use as a matter of design choice.

Response to Arguments

8. Applicant's arguments with respect to claims 1 - 13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pate (US 5,632,844) is directed to an acoustic lamina wall covering (Title). Pate teaches a

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woven fabric adhered to a discontinuous thermoplastic polymer layer (Abstract). Pate teaches that the threads of the woven fabric are made of any natural or synthetic polymer such as polyester and is coated with a polyvinyl chloride plastisol (column 3, lines 15 – 30). Pate teaches that the covering also includes a backing layer made from any fabric which is woven, nonwoven or the like (column 4, lines 45 – 55). Pate fails to teach that the thermoplastic polymer layer is waterproof.


10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer Boyd
May 11, 2004


Ula C. Ruddock
Primary Examiner
Tech Center 1700